
MISSOURI AQUACULTURE

A New Taste to Agriculture



AQUACULTURE IS AGRICULTURE

In the past, the propagation and harvest of aquatic animals and plants in Missouri was viewed chiefly as a natural resource activity. Commercial aquaculture is now officially recognized as an agricultural enterprise. For decades, many family farms have provided fresh fish to the people of Missouri and elsewhere.

CURRENTLY IN MISSOURI

In Missouri, over 35 different species of aquatic animals and plants are produced. While channel catfish and rainbow trout are the most popular foodfish in Missouri, largemouth bass, sunfish, hybrid striped bass, tilapia, and paddlefish also contribute to the diverse foodfish industry of Missouri aquaculture.

Missouri aquaculture farms offer a variety of products to a variety of customers. Although most fish are sold live for restocking in private lakes and ponds, many fish farms market foodfish directly to customers, providing whole, filleted, or smoked fish fresh from the farm. Producers also cater to restaurants that provide locally grown aquaculture products on their menus. And what can be more fun than catching your dinner? Some farms offer fee fishing where anglers of all ages have the unique opportunity to take home their catch ready for the skillet.

THE FUTURE OUTLOOK IN MISSOURI

Opportunities exist for continued growth of the aquaculture industry in Missouri. With increasing demand for seafood, declining capture fisheries, and a fisheries trade deficit exceeding \$4 billion annually, aquaculture is already the fastest growing segment of U.S. agriculture. The key to success in Missouri lies in producing what the customer desires, while maximizing production. Missouri has major markets nearby and natural resources available to become a major contributor in U.S. aquaculture.

As Missouri's aquaculture industry continues to grow, in years to come, you will see more and more seafood identified as "Missouri Grown." The freshness of locally-grown aquaculture products will make these recipes as delicious as they can be. Contact the Missouri Department of Agriculture for tips on purchasing Missouri-Grown aquaculture products.

HEALTHY EATING

With increasing consumer demand for healthy and nutritious foods, fish is increasingly a preferred alternative. High in protein and low in calories, fish can be a good source of Omega-3 fatty acids. The USDA acknowledges that making fish a routine part of the diet may reduce heart disease and lower cholesterol. Today, fish is a natural choice, and does not have to be deep-fried to make a great meal.

We encourage you to try these recipes. Not only is fish healthy and nutritious, you will find it is surprisingly easy to prepare, anytime.

Why go to the store for trout when you can catch as much as you want, and fresh, at private fee fishing parks throughout the state. Contact the MDA for more information on fee fishing in Missouri.

Crisp-sided Trout with Ginger Sauce

- 4 farm-raised trout fillets, skin-on
(about 1½ lbs)
- 2 t. olive oil
- 1 bunch green onions, trimmed and thinly sliced
- 1 T. grated fresh ginger
- 2 T. low-sodium soy sauce
- 2 T. sake or white wine
- pinch red pepper flakes

Cut 3 shallow diagonal slashes in the skin side of each trout fillet. Heat the oil in a large non-stick

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frying pan and add the fillets skin-side down. Cover and cook over medium-high heat until the tops of the fillets are opaque, 3–4 minutes.

Remove the lid and continue cooking until the skin is crisp and brown and the flesh is opaque through the thickest part, 2–3 minutes longer. Flip the fillets skin-side up onto 4 warmed dinner plates. Add the green onions and ginger to the frying pan and cook over medium heat, stirring until soft, about 1 minute. Add the soy sauce, sake and red pepper flakes. Stir and cook until hot, about 30 seconds longer. Pour the sauce over the trout fillets and serve immediately. Serves 4.

No kidding, CARP are good eating, especially grass carp. There are more pounds of carp produced in aquaculture in the world than any other type of fish. Remove the red meat on the skin side of the fillet for a better tasting dish.

Braised Grass Carp Fillets

- 1 T. olive oil
- 3 scallions, finely chopped
- ¼ c. dry white wine
- 1 T. chopped fresh parsley
- 4 farm-raised grass carp fillets, skinless
- salt and pepper, to taste
- 1 T. butter

In a large skillet, heat the oil over medium-high heat. Add the scallions and cook, stirring, until they are tender, about 3 minutes. Add the wine and parsley and bring the mixture to a simmer. Add the fish fillets, cover the pan, and cook for 3 minutes. Uncover, turn the fillets carefully with a spatula, and continue cooking for another 2–3 minutes, or until fish cooked. Transfer fish to a serving platter and cover loosely with foil to keep warm. Add the butter to the pan and let it melt. Serve the fish immediately, topped with pan juices. Serves 4.

Whoever heard of catfish in a stew? This healthy recipe is proof that “there’s more than one way to skin a cat”fish.

Catfish Stew

¼ c. olive oil
1 c. celery, chopped
1 c. green bell pepper, chopped
1 c. onion, chopped
2 cloves garlic, chopped
4 c. beef stock or canned broth
1 16-oz. canned tomatoes
1 10-oz. package frozen okra, cut
1 t. salt
½ t. cayenne pepper
½ t. dried oregano
1 bay leaf
5 farm-raised catfish fillets, cut into 1-inch cubes
Cooked rice

Heat oil in a Dutch oven or a large heavy saucepan over medium heat. Add celery, bell pepper, onion and garlic. Sauté until softened.

Add beef stock, tomatoes, okra, salt, thyme, cayenne pepper, oregano and bay leaf. Bring to boil. Reduce heat to medium low, cover and simmer for 30 minutes, stirring occasionally.

Add catfish fillet pieces and simmer for 15 minutes or until fish flakes easily when tested with a fork. Do not overstir once catfish becomes soft. Remove bay leaf before serving. Serve stew over cooked rice. Serves 10.

For more recipes featuring Missouri-Grown fish, contact:

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The Catfish Institute
U.S. Trout Farmers Assn.

www.catfishinstitute.com
www.ustfa.org

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You may think you have to go to the coast for this dish, but both hybrid striped bass and prawn grow extremely well in Missouri.

Pan-Fried Striped Bass with Citrus Prawns

4–5 oz. farm-raised hybrid striped bass fillets
8 oz. seasoned flour
4 oz. clarified butter
Citrus Prawns (recipe follows)

Heat butter in pan until hot. Coat fillet in seasoned flour. Brown lightly on both sides 2–3 minutes.

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Citrus Prawns

1 doz. large farm-raised prawns, cleaned
6 oz. butter
3 limes, juice and zest
2 lemons, juiced
salt and pepper, to taste

Heat butter in pan. Sauté prawns 1–2 minutes. Add citrus juices, zests, and seasonings. Sauté a few more minutes. Top fillets with prawns and citrus butter. Serves 4.

(NOTE: Prawns can be substituted with an equal amount of crawfish tail meat or large shrimp)

Some producers integrate tilapia culture in greenhouses with hydroponic plant production. This is called aquaponics.

Coconut Lime Tilapia

1 egg, beaten
1/3 c. coconut milk (not cream of coconut)
¾ c. fine breadcrumbs
½ c. flaked unsweetened coconut
1 t. lime zest
4 farm-raised tilapia fillets
Mustard Lime Sauce (recipe follows)

Combine egg and milk in a shallow dish. Combine breadcrumbs, coconut and lime zest in another shallow dish. Dip fillets in egg mixture, and then dredge in coconut mixture. Arrange fillets on a lightly greased baking sheet. Bake at 450°F for 15 minutes or until fish flakes easily. Serve with Mustard Lime Sauce. Serves 4.

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Mustard Lime Sauce

¼ c. reduced calorie mayonnaise
2 t. Dijon mustard
2 T. lime juice

Combine all ingredients; mix well. Makes about 6 tablespoons.

OK. We realize there are those of you who insist on having your fish deep-fried, so try this recipe.

Missouri Fried Catfish

6 farm-raised catfish, skinned and pan-dressed
2 t. salt
¼ t. pepper
2 eggs
2 T. buttermilk
2 c. cornmeal

Sprinkle both sides of the fish with salt and pepper. Beat eggs slightly and blend in buttermilk. Dip fish in the mixture and roll in the cornmeal. Place coated in a heavy pan containing ¾" of hot, but not smoking vegetable oil. Fry at moderate heat. When fish is golden brown on one side, turn carefully and continue frying. Cooking time is about 5 minutes on each side, depending on thickness. Drain on a paper towel and serve immediately. Serves 6.

TIPS ON SELECTING FRESH FISH

- ☑ Flesh is firm, elastic, and not separating from the bones.
- ☑ In buying fillets and steaks, look for a fresh-cut appearance and color that resembles freshly-dressed fish.
- ☑ Odor should be fresh and mild. A fish just taken from the water has practically no “fishy” odor.
- ☑ Eyes are bright, clear, transparent, full, and often protruding. As the fish sits on the shelf, the eyes look cloudy and sunken.
- ☑ Gills are red and free from slime.
- ☑ Skin is shiny and with color that has not faded.

Fresh fish should be placed in a 35–40 degree F refrigerator in their original leakproof wrapping as soon as possible after purchase. Even a few hours at room temperature can start spoilage. Storage should be no longer than a day or two before cooking.

—“Fish and Seafood–Dividend Foods,”
by Charlotte M. Dunn.



**For More Information About
Missouri Aquaculture, contact:**

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